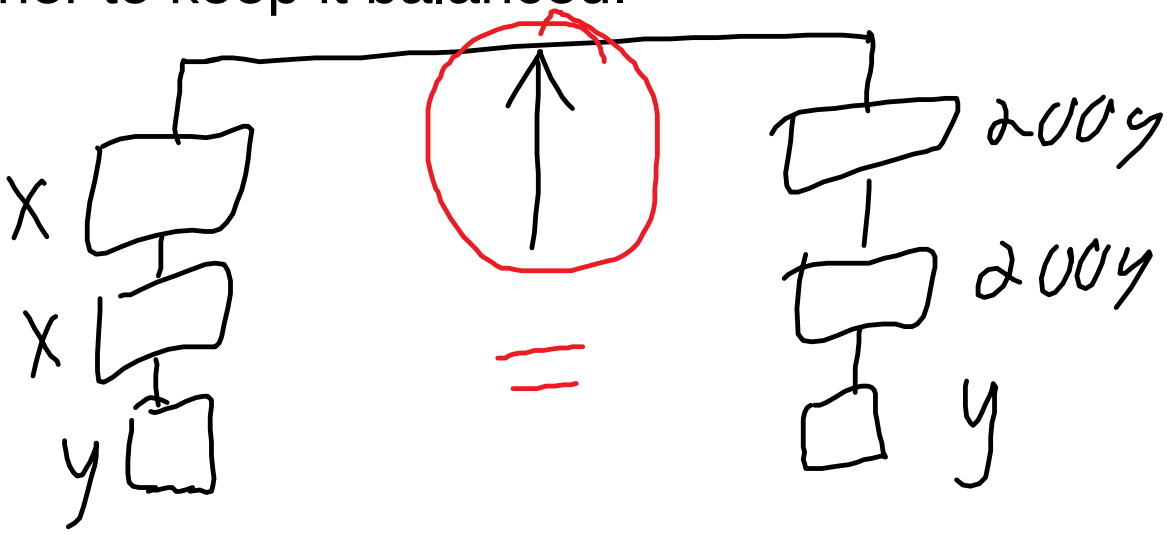
Look at the balance - remember we have the same mass on both sides of the balance.

What we do on one side, we must do on the other to keep it balanced.

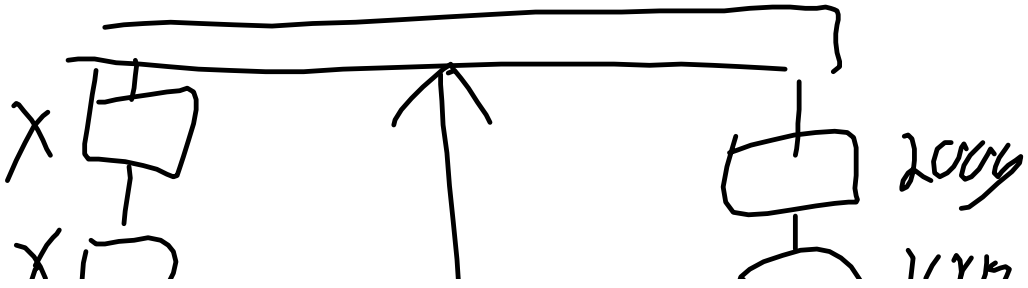


$2x + y = 400g + y$

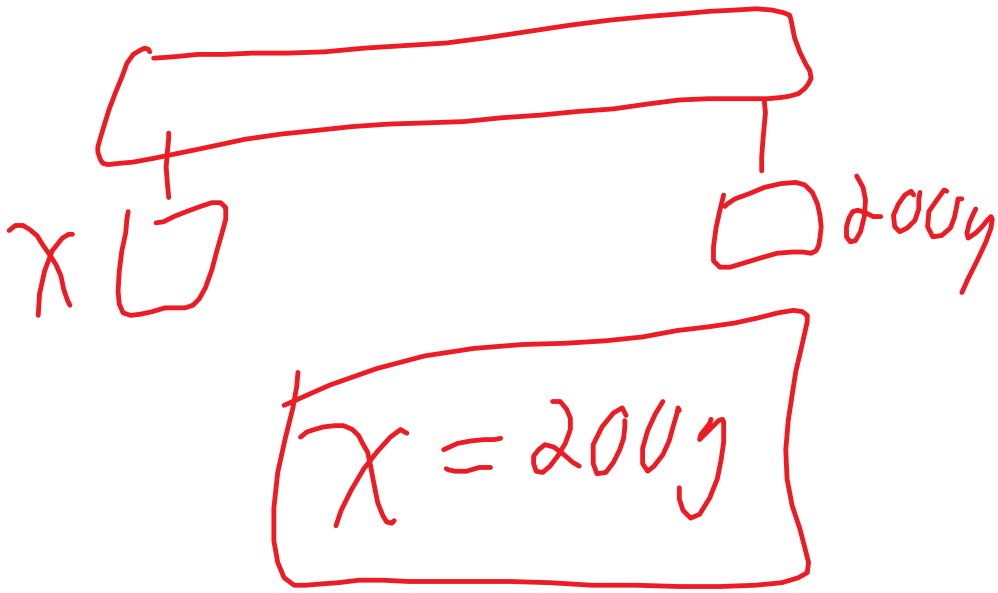
what do we do to solve for x?

first step is to remove the added/subtracted part

if we remove y from one side, we must also remove y from the other side to keep it balanced.



$$\frac{2x}{2} = \frac{400}{2}$$

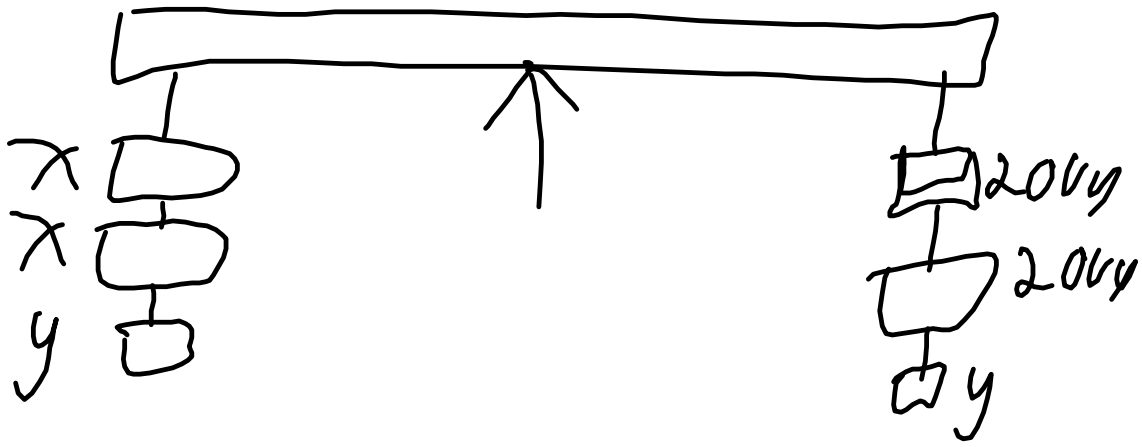


$$x = 200g$$

p196 -199
Q1(skip 2 and 3)Q4-14 all (LHS first then RHS)
Quiz next class includes these problems

More Solving Equations

Balance with silver weights as variables, 2 different types and the black weights are 200g each.



$2x + y = 400g + y$

$-y \qquad -y$

$2x = 400g$

$\frac{2x}{2} = \frac{400g}{2}$

x = 200g balanced!

2/3y - 15 = 20

2/3(y - 15) =20

y=?

4-x same as -x + 4

2/3y - 15 = 20

$\frac{2}{3}y = 35$

$y = 35 \div \frac{2}{3}$

$y = 35 \times \frac{3}{2} \Rightarrow y = 52.5$

2/3(y - 15) =20

$\frac{2}{3}y - 10 = 20$

$+10 \quad +10$

$\frac{2}{3}y = 30$

$\times \frac{3}{2}$

$y = 45$

x

$y = 45$

$\frac{2}{3}(y - 15) = 20$

$+\frac{3}{2}$ $\quad \times \frac{3}{2}$

$y - 15 = 30$

$y = 45$

4 e) $4 - \frac{y}{5} = 1$

Same as $\rightarrow -\frac{y}{5} + 4 = 1$